**Minimize the sum of product**

Show Topic Tags   

Given two arrays, A and B, of equal size n, the task is to find the minimum value  of A[0] \* B[0] + A[1] \* B[1] +…+ A[n-1] \* B[n-1], where shuffling of elements of arrays A and B is allowed.

Examples:  
  
Input : A[] = {3, 1, 1} and B[] = {6, 5, 4}.  
Output : 23 Minimum value of S = 1\*6 + 1\*5 + 3\*4 = 23.  
  
Input : A[] = { 6, 1, 9, 5, 4 } and B[] = { 3, 4, 8, 2, 4 }  
Output : 80. Minimum value of S = 1\*8 + 4\*4 + 5\*4 + 6\*3 + 9\*2 = 80.

**Input:**  
The first line of input contains an integer denoting the no of test cases. Then T test cases follow. Each test case contains three lines. The first line of input contains an integer N denoting the size of the arrays. In the second line are N space separated values of the array A[], and in the last line are N space separated values of the array B[].  
  
**Output:**  
For each test case in a new line print the required result.  
  
**Constraints:**  
1<=T<=100  
1<=N<=50  
1<=A[]<=20  
  
**Example:  
Input:**  
2  
3   
3 1 1  
6 5 4  
5  
6 1 9 5 4  
3 4 8 2 4  
**Output:**  
23   
80

\*\*For More Examples Use Expected Output\*\*

<http://practice.geeksforgeeks.org/problems/minimize-the-sum-of-product/0>

/\*

\* To change this template, choose Tools | Templates

\* and open the template in the editor.

\*/

package javaapplication245;

import java.io.BufferedReader;

import java.io.IOException;

import java.io.InputStreamReader;

import java.util.ArrayList;

import java.util.Arrays;

/\*\*

\*

\* @author Administrador

\*/

public class JavaApplication245 {

/\*\*

\* @param args the command line arguments

\*/

public static void main(String[] args) throws IOException {

// TODO code application logic here

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

int t = Integer.parseInt(br.readLine());

while(t-- > 0) {

int n = Integer.parseInt(br.readLine().trim());

String[] as = br.readLine().trim().split(" ");

String[] bs = br.readLine().trim().split( " ");

int[] a = new int[n];

for(int i =0; i<n; i++) {

a[i] = Integer.parseInt(as[i]);

}

int[] b = new int[n];

for(int i =0; i<n; i++) {

b[i] = Integer.parseInt(bs[i]);

}

Arrays.sort(a);

Arrays.sort(b);

int sum =0;

for(int i =0; i<n; i++) {

sum+=a[i] \* b[n-i-1];

}

System.out.println(sum);

}

}

}